KAGANOVICH, Naum Aronovich; KUZNETSOV, V.A., dotsent, kand. tekhn. nauk, retsenzent; IVANOV-TSYGANOV, A.I., kand. tekhn.nauk, red.; BOGOMOLOVA, M.F., red. izd-va; PUKHLIKOVA, N.A., tekhn. red.

[Radio equipment of airplanes]Radiooborudovanie samoletov. Moskva, Oborongiz, 1962. 199 p. (MIRA 15:9)
(Airplanes--Radio equipment)

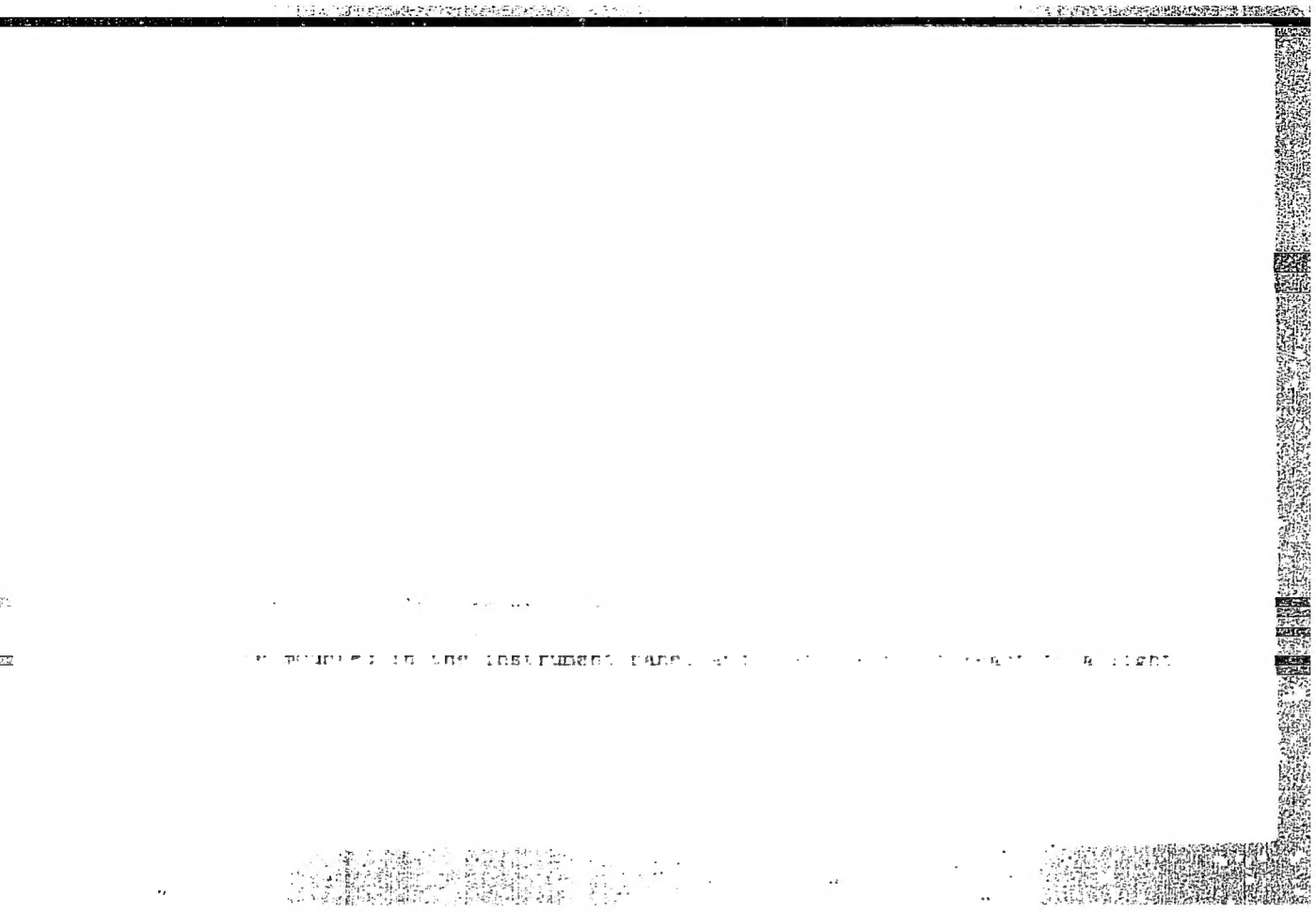
KUZNETSOV, V., doktor tekhn.nauk

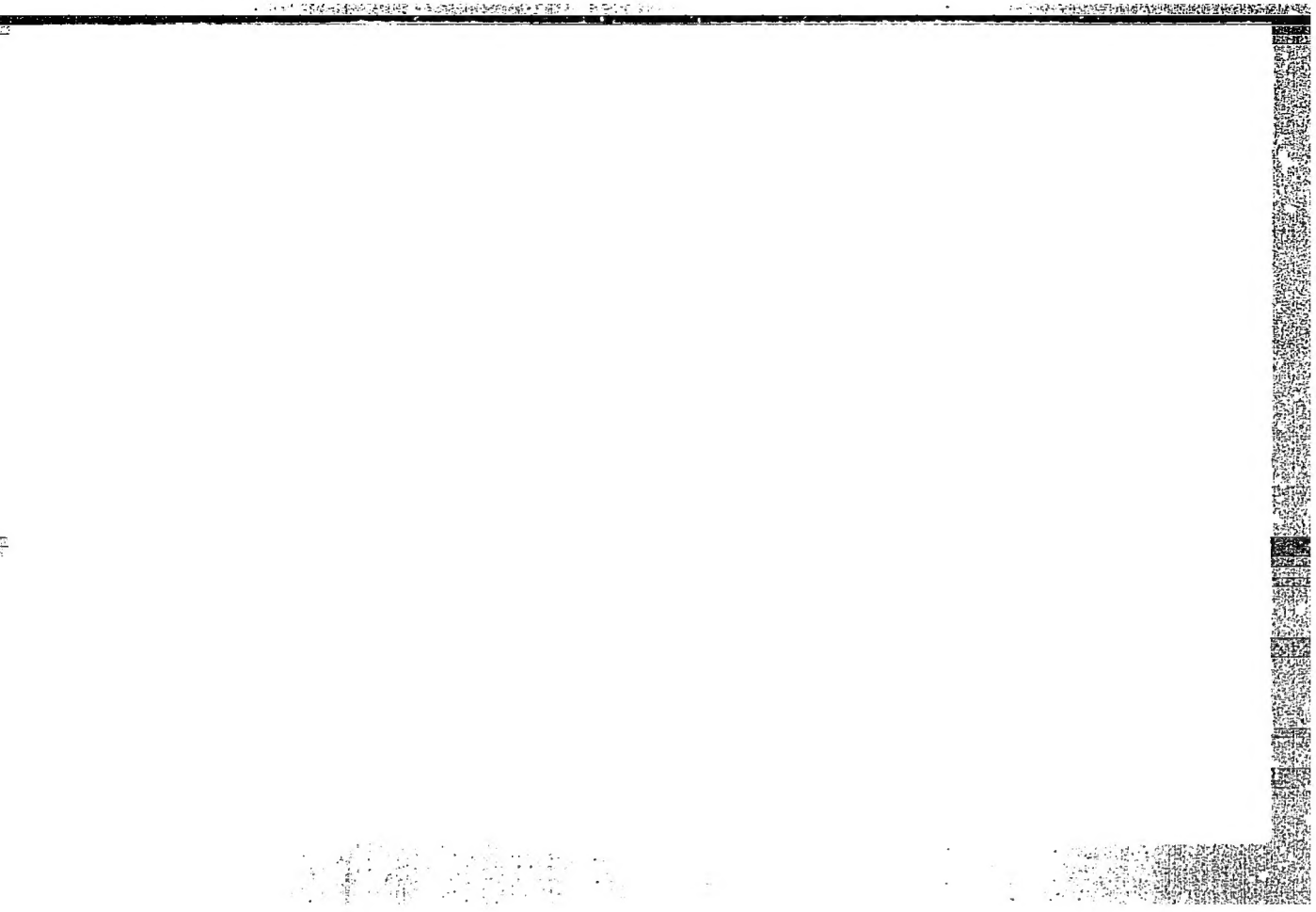
New Soviet helicopters. Kryl.rod. 13 no.12:16-17 D '62.
(MIRA 16:2)
(Helicopters)

KON'KOV, Nikolay Grigor'yevich; KUZNETSOV, V.A., prof., doktor tekhn. nauk, general-mayor inzh.-tekhn.sluzhby, red.; SHORIN, A.M., red.; MURASHOVA, L.A., tekhn.red.

[Aircraft rocket weapons; according to data from foreign newspapers] Raketnoe oruzhie na samolete; po dannym zarubezhnoi pechati. Moskva, Voenizdat, 1963. 107 p. (MIRA 16:12)

(Airplanes, Military—Armament)
(Rockets (Ordnance))





KUZNETSOV, Vasiliy Andreyevich, general-mayor aviatsii; SOKOLOV, V.D., podpolkovnik, red.; ZUDINA, M.P., tekhn. red.

[Formation of a pilot; notes of a commander] Stanovlenie letchika; zapiski komandira. Moskva, Voenizdat, 1963 p. (MIRA 16:10)

(Aeronautics, Military)

KUZNETSOV, V.A., professor.

Grading carcasses by fleshiness. Veterinariia 35 no.6:34-37 Je '58.
(MIRA 11:6)

1. Turkmenskiy sel'skokhozyaystvennyy institut.
(Meat--Grading)

SAFAR'YANTS, E.; KUZNETSOV, V., prof.; ABDURAZAROV, N.; BABAYEV, M.; TRET'YAKOV, V.

Norms for the output of meat products. Mias. ind. SSSR 30 no.5:28-29 '59. (MIRA 13:1)

1.Glavnyy vetvrach Ashkhabadskogo myasokombinata (for Safar'yants). 2.Turkmenskiy sel'skokhozyaystvennyy institut (for all except Safar'-yants).

(Meat industry)

KUZNETSOV, V., prof.; SAFAR'YANTS, E.

Suggested standards for cattle and meat. Mias.ind. SSSR 31 no.6:28 '60. (MIRA 13:12)

1. Turkmenskiy sel'skokhozyaystvenny institut (for Kuznetsov).
2. Ashkhabadskiy myasokombinat (for Safar'yants).
(Cattle--Standards) (Meat--Standards)

KOROLEV, V., dotsent; KUZNETSOV, V.

Dried biogenetic stimulators made with embryos. Mias.ind. S.S.S.R. 33 no.6:22-23 '62. (MIRA 16:1)

1. Semipalatinskiy zooveterinarnyy institut (for Korolev).
2. Semipalatinskiy myasokonservnyy kombinat imi Kalinina (for Kuznetsov).
(Beef cattle—Feeding and feeds) (Tissue extracts)

KUZNETSOV, V.A.; MAKUKHA, V.I.

Analysis of residual gases in an electronic projector. Radiotekh. i elektron. 11 no. 2:351-353 (MIRA 19:2)

1. Moskovskiy fiziko-tekhnicheskiy institut. Submitted April 10, 1965.

KUZNETSOV, V.A.

KUZNETSOV, V.A., (Noril'sk, Krasnoyarskogo kraya)

Case of extensive injuries of the radiocarpal joint. Ortop. travm. i protez. no.3:58-59 My-Je '55. (MLRA 8:10)

(WOUNDS AND INJURIES,
wrist)
(WRIST, wounds and injuries)

KUZNETSOV, V.A.

A new operation in prolapse of the rectum and reconstruction of the sphincter. Vest.khir.76 no.10:107-110 N '55.(MLRA 9:1)

1. Iz khirurgicheskogo otdeleniya (zav.--V.A.Kuznetsov) Noril'skoy oblastnoy bol'nitsy.
(RECTUM, dis.
prolapse, surg.,new method)

KUZNETSOV, V.A.

[redacted] sharp-edged foreign bodies in the gastrointestinal system [with summary in English, p.154]. Khirurgiia 33 no.2:81-84 F '57. (MLRA 10:6)

1. Iz khirurgicheskogo otdeleniya Noril'skoy gorodskoy bol'nitsy.
(GASTROINTESTINAL SYSTEM, foreign bodies
sharp-edged foreign bodies, compl. (Rus))

KUZNETSOV, V.A. (Noril'sk, Krasnoyarskogo kraya, Monchegorskaya ul., d.7, kv.22)

Experience in esophageal reconstruction [with summary in English, p.156] Vest.khir. 78 no.2:13-15 F '57. (MLRA 10:3)

1. Iz oblastnoy bol'nitsy g. Noril'ska Krasnoyarskogo kraya
(ESOPHAGUS, surg.
reconstruction, results (Rus))

493. THE RESULTS OF STOMACH OPERATIONS IN ARCTIC CONDITIONS (Russian text) - Kuznetsov V. A. - KHIRURGIYA 1958, 1 (114-117) Tables 2

780 patients in whom stomach operations were performed were followed up for 13 yr. Operations were carried out in connection with stab wounds (28), s.c. tears of the stomach (4), volvulus (2), foreign bodies of the stomach (18), gastroliths (2), cardiospasm (4), pylorospasm (5), oesophageal obstruction (12), peptic ulcer and duodenal ulcer (563), duodenal obstruction (11), cancer of the stomach (103), other tumours (14), stomach phlegmon (3) and antral gastritis (11). Resection of the stomach was performed by the following methods: Polya-Raikhel, Billroth I, Moinigen, subtotal, total-subtotal, cardial and by transpleural approach. Postoperative mortality due to ulcers of the stomach was 3.5%, while in case of cancer it was 16.5%. The author considers that it is necessary to develop a number of techniques and to standardize them in order to achieve good results in operations on the stomach.

KUZNETSOV, V.A. (Noril'sk, Monchegorskaya ul., d.7, kv.22)

Regional vascular disease of the intestinal wall [with summary in English]. Vest. 80 no.2:83-89 F '58. (MIRA 11:3)

1. Iz khirurgicheskogo otdeleniya bol'nitsy gor. Noril'ska (zav. otdelom-V.A.Kuznetsov)
(INTESTINES, blood supply
vasc. disord., pathol. & ther. (Rus)

KUZNETSOV, V.A. (Kazan')

Method for detecting neural elements in the stomach wall in peptic ulcer by impregnation with silver nitrate. Arkh. pat. 21 no.9:74 '59. (MIRA 14:8)

1. Iz kafedry gistologii (zav. - zasluzhennyy deyatel' nauki RSFSR prof. A.N.Mislavskiy) i khirurgii (zav. - zaslushennyy deyatel' nauki RSFSR prof. I.V.Domrachev) pediatricheskogo fakul'teta Kazanskogo meditsinskogo instituta.
(PEPTIC ULCER) (SILVER NITRATE)
(STOMACH--INNERVATION)

KUZNETSOV, V.A.

Tumors of the posterior mediastinum. Khirurgiia 35 no.1:123-124 Ja '59. (MIRA 12:2)

1. Iz khirurgicheskogo otdeleniya (zav. V.A. Kuznetsov) Noril'skoy gorodskoy bol'nitsy.
(MEDIASTINUM, neoplasms, posterior (Rus))

KUZNETSOV, Viktor Alekseyevich; RUSANOV, M.N., red.; KHARASH, G.A., tekhn.red.

[Method for the surgical treatment of prolapse of the rectum in adults] Metodika operativnogo lecheniia vypadeniia priamoi kishki u vzroslykh. [Leningrad] Gos.izd-vo med.lit-ry Medgiz, Leningr.otd-nie, 1960. 125 p.

(MIRA 14:5)

(RECTUM--SURGERY)

KUZNETSOV, V.A., assistent

Receptor apparatus of the stomach in peptic ulcer. Kaz. med. zhur. 41 no.3:63-65 My-Je '60. (MIRA 13:9)

1. Iz kafedry gospital'noy khirurgii No 2 (zav. - prof. I.V.Domrachev [deceased] i kafedry gistologii (nauchnyye rukovoditeli - prof. A.N. Mislavskiy [deceased] i prof. G.I. Zabusov) Kazanskogo meditsinskogo instituta.

(STOMACH—INNERVATION) (PEPTIC ULCER)

KUZNETSOV, V. A.

Cand Med Sci - (diss) "Clinico-morphological study of intra-mural nervous apparatus of the stomach in an ulcerous condition." Kazan', 1961. 15 pp; (Second Moscow State Medical Inst imeni N. I. Pirogov);280 copies; free; (KL, 10-61 sup, 225)

KUZNETSOV, V.A.

Clinical and morphological study of the intramural nervous apparatus of the stomach in peptic ulcer. Eksper.khir.i anest. 6 no.4:43-47 '61. (MIRA 14:10)
(PEPTIC ULCER) (STOMACH--INNERVATION)

KUZNETSOV, V.A.

Foreign bodies left in the wound during surgery. Khirurgiia no.3:93-97 '63. (MIRA 16:5)

1. Iz khirurgicheskogo otdeleniya (zav. V.A.Kuznetsov) Noril'skoy gorodskoy bol'nitsy.
(FOREIGN BODIES (SURGERY))

KUZNETSOV, V.A., dotsent; SIGALOV, A.B.

Ways of lowering the rate of stillbirths. Sov.med. 21 no.2:35-41 F '57. (MLRA 10:6)

1. Iz akusherako-ginekologicheskoy kliniki (zav. - prof. P.P.Sidorov) Stalinskogo meditsinskogo instituta (dir. - dotsent A.M.Ganichkin)
(STILLBIRTH, prev. and control in Russia)

KUZNETSOV, K.A., dotsent

Necrosis of fibromyoma of the uterus in pregnancy. Sov. med. 25 no.5:129-131 My '61. (MIRA 14:6)

1. Iz akushersko-ginekologicheskoy kliniki (zav. - prof. P.P.Sidorov) Stalinskogo gosudarstvennogo meditsinskogo instituta imeni Gor'kogo (dir. - dotsent A.M.Ganichkin) na baze bol'nitsy imeni M.I.Kalinina (glavnyy vrach - kandidat meditsinskikh nauk B.A.Shaparenko), Stalino-Donbass.
(PREGNANCY, COMPLICATIONS OF) (UTERUS--TUMORS)

KUZNETSOV, V.A., dotsent

Some problems of medical procedures in sarcomatous degenerated uterine fibromyomas. Sov.med. 25 no.12:70-72 D '61. (MIRA 15:2)

1. Iz akushersko-ginekologicheskoy kliniki (zav. - prof. P.P.Sidorov) Donetskogo meditsinskogo instituta (dir. - dotsent A.M.Ganichkin) na baze bol'nitsy imeni M.I.Kalinina (glavnyy vrach - kand.med.nauk B.A.Shaparenko).

(UTERUS--CANCER)

KUZNETSOV, V.A., dotsent; MIROSHNICHENKO, V.P.

Course of pregnancy and labor in arterial hypotension. Sov. med. no.3:118-121 '62. (MIRA 15:5)

1. Iz akushersko-ginekologicheskogo kliniki (zav. - prof. P.P. Sidorov) Donetskogo meditsinskogo instituta imeni A.M. Gor'kogo (dir. - dotsent A.M. Ganichkin) na baze Klinicheskoy bol'nitsy imeni M.I. Kalinina (glavnyy vrach - kand.med.nauk B.A. Shaporenko).

(PREGNANCY, COMPLICATIONS OF) (HYPOTENSION)
(LABOR, COMPLICATED)

KUZNETSOV, V. A., dotsent

Clinical aspects of necrotic fibromyomas of the uterus. Akush. i gin. no.4:64-68 '62. (MIRA 15:7)

(UTERUS—TUMORS)

KUZNETSOV, V.A., dotsent

Diagnosis of secondary changes in fibromyomas of the uterus. Sov. med. 26 no.6:103-106 Je '62. (MIRA 15:11)

1. Iz akushersko-ginekologicheskoy kliniki (zav. - prof. P.P.Sidorov) Donetskogo meditsinskogo instituta imeni Gor'kogo (rektor - dotsent A.M.Ganichkin) na baze Bol'nitsy imeni Kalinina (glavnyy vrach V.F.Zubko), Donetsk.
(UTERUS—TUMORS)

KUZNETSOV, V.A., dotsent; KUKHTINOVA, R.A., assistent; SOROKA, P.G., assistent.

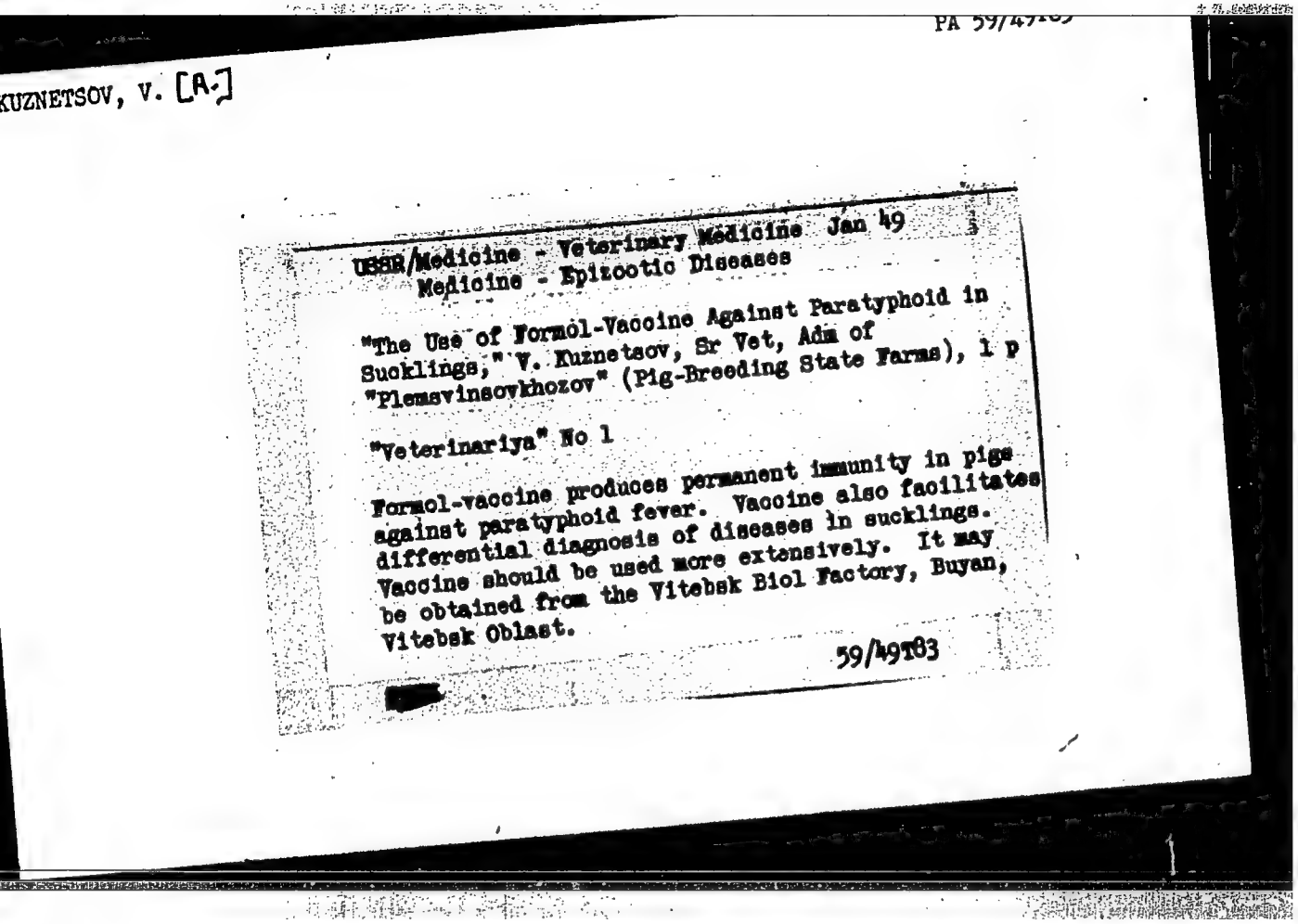
Extensive congenital skin defects in newborn infants. Akush. i gin. 39 no.4:134-135 Jl-Ag'63 (MIRA 16:12)

1. Iz akushersko-ginekologicheskoy kliniki No.1 (zav. - prof. P.P. Sidorov) Donetskogo meditsinskogo instituta imeni A.M. Gor'kogo.

KUZNETSOV [illegible] (Noril'sk, Krasnoyarskogo kraya, Leninskiy prospekt, [illegible], kv.31)

Benign tumors of the mediastinum. Grud. khir. 6 no.6:73-76 N-D '64. (MIRA 18:7)

1. Khirurgicheskoye otdeleniye (zav. V.A. Kuznetsov) Noril'skoy gorodskoy bol'nitsy.



KUZNETSOV, V. [A.]

PA 59/49103

USSR/Medicine - Veterinary Medicine Jan 49
Medicine - Epizootic Diseases

"The Use of Formol-Vaccine Against Paratyphoid in Sucklings," V. Kuznetsov, Sr Vet, Adm of "Plemsvinsovkhozov" (Pig-Breeding State Farms), 1 p

"Veterinariya" No 1

Formol-vaccine produces permanent immunity in pigs against paratyphoid fever. Vaccine also facilitates differential diagnosis of diseases in sucklings. Vaccine should be used more extensively. It may be obtained from the Vitebsk Biol Factory, Buyan, Vitebsk Oblast.

59/49103

KUZNETSOV, V. [A.]

Karakul Sheep - Turkmenistan

Meat productivity of Turkmen karakul sheep. Mias. ind. 23 No. 4, 1952.

MONTHLY LIST OF RUSSIAN ACCESSIONS. LIBRARY OF CONGRESS, DECEMBER 1952. Unclassified

USSR/Medicine - Veterinary FD-1299

Card 1/1 : Pub 137-19/20

Author : Kuznetsov, V. A., Professor, Doctor of Veterinary Sciences

Title : Seventh Scientific Session of the Academy of Sciences of the Turkmen SSR

Periodical : Veterinariya, 8, 62-63, Aug 1954

Abstract : Seventh scientific session, promoted by the Academy of Sciences of the Turkmen SSR, was held in Ashkhabad. Representatives from the following organizations attended the meetings: Turkmen Scientific-Research Veterinary Experimental Station (NIVOS), Turkmen Karakul Trust, Meat and Dairy Industry, Brucellosis Control Station, and Turkmen Agricultural Institute (TSKhI). Resolutions of the September Plenum of the Central Committee of the CPSU were discussed and various methods of sanitary-epidemic control were considered.

Institution :

Submitted :

BERDYYEV, T.B., professor, redaktor; DONCHENKO, V.V., otvetstvennyy redaktor; KUZNETSOV, V.A., redaktor; MECHAYEVA, N.T., redaktor; SMETANOVA, S.D., redaktor izdatel'stva; BULGAKOVA, N.Ye., redaktor izdatel'stva; KASPAR'YANTS, L.T., tekhnicheskiy redaktor

[Proceedings of the seventh session of the Turkmen Academy of Science; February 22-25, 1954] Trudy sed'moi sessii Akademii nauk Turkmenskoy SSR 22-25 fevralia 1954 g. Pod obshchei red. T.B.Berdyeva. Ashkhabad, 1955. 409 p. (MLRA 10:3)

1. Akademiya nauk Turkmenskoy SSR, Ashkhabad. 2. Deystvitel'nyy chelen Akademii nauk TSSR (for Berdyev)
(Stock and stockbreeding) (Veterinary medicine)

KUZNETSOV, V.A.

PHASE I TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 95 - I

BOOK Call No.: TN 775.K88

Authors: KUZNETSOV, V. A. and OBERSHTEYN, A. A.

Full Title: WELDING CONTACTS IN THE ELECTROMETALLURGY OF ALUMINIUM.

Transliterated Title: Svarnyye kontakty v elektrometallurgii alyuminiya.

Publishing Data

Originating Agency: None

Publishing House: State Scientific and Technical Publishing House of Literature on Ferrous and Non-Ferrous Metallurgy. (Metallurgizdat).

Date: 1952 No. pp.: 218 No. of copies: 5,000

Editorial Staff

Editor: Prof. Dr. Belyaev, A. I.

Editor-in-Chief: None

Tech. Ed.: None.

Appraisers: Laureate of the Stalin Prize Gaylit, A. A., Laureate of the Stalin Prize Bach. of Tech. Sci. Poplovko, M. V.

Others: For experimental and practical work the author acknowledges the help of M. I. Surkov, N. K. Sokolovskiy, Electrical Engineer M. S. Kovarskiy, Welding Instructor Hero of the Soviet Union Kadochnikov, I. P. and Welding Innovator Leonov, N. I. The author thanks V. V. Volding, leader in planning electric baths with welding contacts, and Penin, A. V. and Osipov, T. V. who helped prepare the book for the press.

1/2

KUZNETSOV, V.A.

Svarnyye kontakty v elektrometallurgii alyuminiya Call No.: TN 775.K88
AID 95 - I

Text Data

Coverage: The author says this book is the first to study welding contacts in the electrometallurgy of aluminium, a process which he states has resulted in a saving of 1.5% of the energy expended in electrolysis. The book describes the design of the leads of aluminium baths and contact nodes; explains the computation of welding contacts for electrical conductivity, the classification and construction of elements of welding contacts in the leadsof aluminium baths; describes the design of copper-copper, aluminium-aluminium, copper-aluminium, and copper-steel welding contacts. The technology of carbon arc-welding contacts is explained in detail. Many charts, diagrams, photographs.

Purpose: The book is intended for technical engineering workers concerned with the planning and maintenance of electrolysis establishments, and can also serve as a handbook for welding operators.

Facilities: None

No. of Russian and Slavic References: 36

Available: Library of Congress.

2/2

SOV/137-58-7-15188

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 181 (USSR)

AUTHOR: Kuznetsov, V.A.

TITLE: The Effectiveness of Welded Contacts in Electrometallurgy of Aluminum (Effektivnost' primeneniya svarnykh kontaktov v elektrometallurgii alyuminiya)

PERIODICAL: Sb. materialov tekhn. inform. Gos. in-t po proyektir. alyumin., magniyevykh i elektrodn. z-dov, 1957, Nr 1, pp 33-35

ABSTRACT: In the course of installing supporting rails in electrolytic baths, the bolt connections on Al contacts were replaced by welded connections. In the period of 1951-1956, this resulted in a saving of 46 million rubles, more than 90 million kw-hrs of electrical energy, more than 37,600 t of steel and 300 t of Cu, and more than two million man-hours which would have been lost on sorting out and cleaning of contacts. In the course of the last five years, approximately 870,000 contacts (in such combinations as: Cu+Al, Cu+Steel, Cu+Cu, and Al+Al) were welded onto the supporting rails in electrolytic baths. Cold pressure welding (W) is coming into wide use along with

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SOV/137-58-7-15188

The Effectiveness of Welded Contacts in Electrometallurgy of Aluminum

butt flash W of Cu and Al rails and Al wires by the method of resistance heating. At the present time rails carrying up to 130,000 amp may be welded. It is pointed out that the methods developed are employed for installation of rails in Mg baths and graphitized furnaces. Welded contacts are also being widely adapted in the Zn, Cu, Ni, and other branches of industry. No data are given on the technology of welding of rails and contacts.

A.P.

1. Connectors (Electric)--Design 2. Connectors (Electric)--Effectiveness
3. Welding--Applications 4. Welding--Economic aspects

Card 2/2

KUZNETSOV, V.A.

135-5-14/14

SUBJECT: USSR/Welding.

AUTHOR: Kuznetsov V.A., Engineer

TITLE: Conference on the Problem of Utilizing Low-Alloy Steels for Welded Structures in the Sixth Five-Year-Plan. (Soveshchaniye po probleme ispol'zovaniya nizkolegirovannykh staley dlya svarnykh konstruktsiy v shestoy pyatiletke).

PERIODICAL: "Svarochnoye Proizvodstvo", 1957, # 5, pp 30-31 (USSR)

ABSTRACT: The commission for coordinating welding research work organized a conference which took place 10-11 Oct 56 in the Institute imeni Baykov of USSR Academy of Sciences at which representatives of research institutes, high educational institutions and industry participated. Member-correspondent of the Academy of Sciences I.P. RYKALIN opened the conference on behalf of the Academy's vice-president I.P. BARDIN.
"M4M"-representative G.L. LIVSHITS (ЦНИИЧЕРМЕТ) delivered a report on
"Low-alloy steels for welded constructions". Mentioning the new steel grades being developed, he recommended as particularly suitable for high-pressure pipelines the steel "19Г", which

Card 1/3

TITLE: Conference on the Problem of Utilizing Low-Alloy Steels for Welded Structures in the Sixth Five-Year-Plan. (Soveshchaniye po probleme ispol'zovaniya nizkolegirovannykh staley dlya svarnykh konstruktsiy v shestoy pyatiletke).

requires no bottleneck materials (silico-manganese) for its production.

B. I. BELYAYEV, Member of USSR Academy for Construction and Architecture, delivered a report on "Perspectives of utilising low-alloy-steel for steel constructions in the current five-year-plan". He stated that currently no more than 20-25 thousand tons of low-alloy steel are used annually for steel-constructions, and that it is planned to raise the figure of low-alloy rolled steel consumption to 200 thousand tons by 1960. During the past years only steel "НЛ-2" (the grade "СХЛ 1" in shipbuilding is the same brand) was in use for steel constructions. Further, he emphasized the necessity to study the causes of brittleness breakdown of steel "14ХГС" in thicknesses of over 16 mm, and to develope new electrodes with a higher efficiency factor (not less than 12 g/amp-hr).

Card 2/3

3

82286

S/135/60/000/007/002/014
A006/A002

18.7200

AUTHORS: Silin, L.L., Kuznetsov, V.A., Engineers, El'yasheva, M.A., Candidate of Technical Sciences

TITLE: The Strength of Weld Joints in Aluminum Alloys Produced by Ultrasonic Welding Process

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 7, pp. 5-8

TEXT: Information is given on results of investigations into the strength of weld joints produced by ultrasonic welding and subjected to static and vibration loads and to the effect of temperature. Specimens made of 0.8 mm thick "АМг3М" (AMg3M) and 1.2 mm thick "Д 16М" (D16M) alloys were subjected to shearing and breaking tests at 20, 100, 150, 200 and 250°C. The specimens consisted of two plates joined by overlap welding on a laboratory installation equipped with a "УЗГ-10" (UZG-10) generator and a "ПСМ-7" (PSM-7) transformer. A conic steel tool with a removable spheric "ШХ15" (ShKh15) steel tip was used. The dimensions of the tool provided for a triple augmentation of the oscillation amplitude during the transmission from the transformer to the work piece. The amplitude was measured by a contactless vibrometer. The welding time was controlled by the "ПВ-52"

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82286

S/135/60/000/007/002/014
A006/A002

The Strength of Weld Joints in Aluminum Alloys Produced by Ultrasonic Welding Process

(PV-52) electric chronoscope. The frequency of oscillations remained constant during all the experiments; it was checked by a "3Г-11" (ZG-11) sound generator and a "30-" (EO-7) cathode oscillograph. Welding parameters are given in a table. Specimens for comparative tests were welded on a standard spot welding machine using the conventional technology. A comparison of results leads to the following conclusions: The static strength of joints in D16M and AMg3M alloys produced by ultrasonic welding and subjected to shearing and breaking tests at room and higher temperatures is not below the strength of joints obtained by resistance welding. A raise of the temperature to 150°C reduces the strength to 20-25%; and to 40-45% at 250°C. The fatigue limit of overlap joints produced by ultrasonic welding is similar to that of analogous joints obtained by contact welding. Vibration strength of ultrasonic weld joints is extremely high and approaches that of the base metal. It is by 30% higher than the vibration strength of resistance-welded joints. In static tests the stability of strength of ultrasonic welds is lower than that of resistance weld joints. The dispersion

X

Card 2/3

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A006/A001

1.5400 1.2108

AUTHORS: Silin, L.L., Nikoleyev, A.V., Engineers, Klebanov, G.N., Candidate of Technical Sciences, Kuznetsov, V.A., Engineer

TITLE: New Welding and Cutting Methods

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 12, pp. 34-37

TEXT: New welding and cutting methods exhibited in a show include ultrasonic welding, plasma processing, welding with an electron beam in a vacuum, cold pressure welding and diffusion welding in a vacuum. The authors report on a series of new machines for the aforementioned purposes. The UZSM-1 ultrasonic apparatus is intended for spot welding of small-size thin alloy parts or their connection with plates. The unit consists of a welding head, a device producing the static force, a time relay and an electric control system. A ПМС -15 (PMS-15) type magnetostriction transformer is used to excite ultrasonic mechanical oscillations in the welding head. The static force is developed by a pneumatic diaphragm device. The force is controlled by modifying the air pressure on the diaphragm with a pressure regulator equipped with a control manometer. The air supply to the diaphragm and its outlet are achieved by an electromagnetic-driven

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pneumatic distributor. The apparatus can be operated individually or automatically. Oscillations may be switched-off after each spot. Spot welding of cermet contacts with bronze bridges was demonstrated on the described machine using a special device (Figure 1). The ultrasonic УЗСМ-2 (UZSM-2) apparatus for seam welding of metal was exhibited together with a technological device for welding annular diaphragms and membranes of 50-110 mm in diameter. On the seam welding device a magnetostriction transformer rotates together with a welding roller and a massive supporting roller. The rollers are connected by a transmission gear. The static force is produced by means of a foot lever. The ultrasonic portable УЗСА-3 (UZSA-3) machine is intended for one-sided welding of thin sheet parts to structures with large plane or shaped surfaces excluding the use of stationary machines. The apparatus consists of a welding head, a vacuum device and an electrical control system, and its design provides for a transmission without considerable losses of electric power from a generator at a distance of up to 50 m. This is one of the advantages of the ultrasonic welding method. The УЗТШ-1 (UZTSh-1) ultrasonic welding machine can be used for spot or seam welding by exchanging the acoustic unit. The contact force is produced by pneumatic drive. In all the described devices the oscillations are transmitted by pressing the part to the lateral surface in the antinode of the longitudinally oscillating

instrument. In the ultrasonic assembly-welding table of the ИО 20.019 (I020.019) type, the oscillations are transmitted to the work from a vertical rod fixed perpendicularly to the longitudinally oscillating link of the magnetostriction transformer. This machine is used for spot welding of parts, one of which must be not over 0.1 mm thick. Ultrasonic welding of plastics is made on the УЗП -1 (UZP-1) and the ПУТ -5 а (PUT-5a) machines which can be used for spot and pitch-seam welding of 0.5-10 mm thick thermo-plastics and polymers. Welding with a plasma jet of low-carbon, low-alloy and high-alloy steels and alloys was demonstrated with the use of a head fixed to a ГС -17МУ (GS-17MU) welding machine (Figure 6). Argon is used as an operating and carbon dioxide as a shielding gas. The plasma jet and the arc are concurrent. Filler wire, introduced into the plasma jet is used to fill the gap. The current varies within 50-450 amp. A plasma jet is also used in building-up and cutting of metals. Welding with an electron beam is coming into industrial use. This process can be performed on the ЭЛУ -1 (ELU-1) unit (Figure 7) intended for welding straight seams up to 1,000 mm long and annular seams at a speed of 2-50 m/hr. The machine consists of the following basic parts: a vacuum chamber, an electron gun, a mechanism displacing the work to be welded, a vacuum system, a feed source and a control unit. The electron-beam gun ensures a 1.5 kw maximum power of the beam at a

maximum acceleration voltage as high as 22 kv. The diameter of the beam can be varied within 0.6 - 4 mm by an electrostatic and magnetic focusing system. The gun can be vertically displaced by 45 mm and the beam can be deflected in the plane perpendicularly to its direction, by 10 mm. A three-phase voltage rectifier is used as a feed source (380/22000 v). The limit vacuum in the chamber attains 5.10^{-5} mm Hg. The vacuum system consists of a forevacuum pump and a vacuum unit of 4,500 l/sec capacity. Friction welding is performed on the MCT -34 (MST-34) machine designed by VNIIESO for friction butt-welding of cylindrical rods, 15-30 mm in diameter. A 15 kw motor drive is used, the rotation speed of the spindle is regulated within 500-1,000 rpm. The parts to be welded are clamped with the use of chucks. Efficiency is up to 150 welds per hour. Cold pressure welding equipment includes the MCXC -35 (MSKhS-35) (Figure 8) and the MCXC -5 (MSKhS-5) machines. The former is used for butt welding copper (up to 150 mm^2 section) and aluminum conductors up to 300 mm^2 section. Hydraulic pressure is used and the maximum force is 35 tons. The MSKhS-5 machine is intended for welding aluminum and copper conductors of 2-20 mm^2 section. Pneumatic drive is used and the upsetting force is 5 tons. The efficiency of the machine is 60 welds per hour. The CHC -2 (SNS-2) table stand is used for welding 5 - 25 mm^2 section

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aluminum conductors and 4 - 10 mm^2 section copper conductors; the КС-6 (KS-6) tongs are also intended for welding aluminum and copper conductors and the ПС-7 (PS-7) for welding aluminum and copper wire. A unit for diffusion welding in a vacuum (СВДУ -3 - SVDU-3) consists of a high-frequency tube generator operating within a range of 300 - 450 cycles, a vacuum chamber and a hydrocylinder. The required rarefaction is obtained using a diffusion pump. The parts are heated with a copper inductor made of a square tube with 1 mm thick walls. The heating temperature is controlled by a platinum-rhodium thermocouple. Twelve parts can be simultaneously welded in the chamber. The unit can be employed for welding cast-iron with steel, cermet plates to cutting tool holders, etc. Arc welding of pipes rotating in a magnetic field, welding in water vapor, and high-frequency welding of plastic films were also demonstrated.

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Technical characteristics of machines for ultrasonic welding of metals and plastics

Characteristics	Type of Unit						
	UZSM-1	UZSM-2	UZSA-3	UZISh-1	I020.019	PUI-5a	UZP-1
Power of the magneto-striction ultrasonic transformer in kw	2,5-4,0	2,5-4,0	1,0	4,0	0,5	4,0	4,0
Operating frequency in kcycles	19,5	19,5	22	20	14-19	20	20
Regulation limits of the contact force in kg	20-200	20-140	5-20	10-200	2-40	5-250	5-400
Limits of welding time regulation in sec	0.1-4,0	-	-	0,2-8	0,2-5,7	0,2-8,0	0,2-8,0
Welding speed	-	4,5-150 m/hr	-	4,5-145 m/hr	-	up to 100 spots/min	6-30 spots/min

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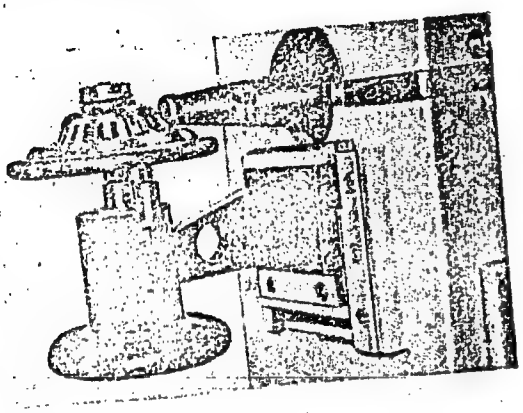

Figure 1.
Ultrasonic welding-on of cermet contacts

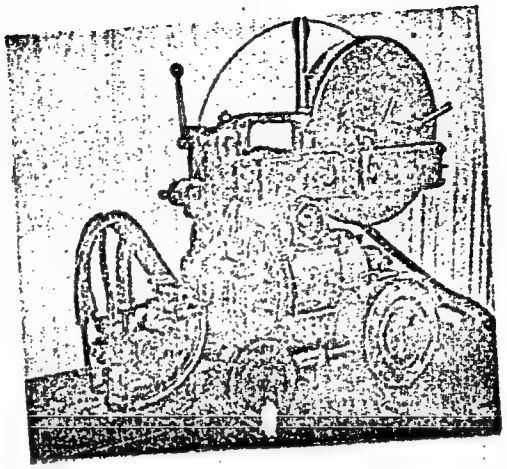

Figure 6.
The TS-17MU welding tractor converted to welding with a plasma jet

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New Welding and Cutting Methods

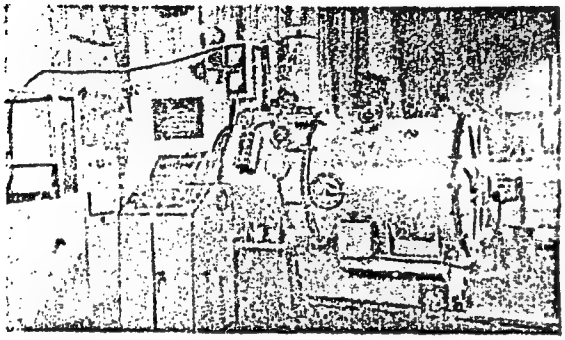

Figure 7.

The ELU-1 unit for welding with an electron beam in a vacuum

There are 9 figures.

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A006/A001

AUTHORS: Krasovskiy, A.I., Candidate of Technical Sciences, Kuznetsov, V.A., Engineer

TITLE: Quality Control of Welding and Welding Materials

PERIODICAL: Svarochnoye proizvodstvo, 1961, No. 1, pp. 10 - 13

TEXT: A number of machines for the quality control of welding materials and weld joints is shown in an exhibition. The following units are listed. The ИМЕТ-ЦНИИЖМ (IMET-TsNIIChM) machine is an improved variant of the IMET-II machine. Its operational principle is based on the expansion of the weld metal at different deformation speeds during the crystallization of the welding pool. The tests are made by bending butt welds along or across the seam (Figure 2). Composite specimens are used of 5 - 25 mm thickness, 20 - 60 mm width and 200 mm length. The technical characteristics of the unit are: limit changes of circumferential speed of the bending lever: 1.8 - 208 mm/min (at a lever length of 90 mm); limit changes of angular speed of the lever 0.02 - 2.3 degree/min; maximum angle of bending the specimens: 20°; 50-watt motor; 1,390 rpm; a-c 220 v. The machine is recommended for developing new types of welding materials and methods. The Л[illegible]-1-4

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Quality Control of Welding and Welding Materials

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(LTP-1-4) machine is intended for the qualitative determination of hot crack sensitivity during welding, depending on the base metal, electrode welding wire and flux material, by tension or bending of specimens. The unit is equipped with an electric drive from an a-c 220/380 v circuit, and with 2 arc automatic welding devices. Specimens of 2 - 16 mm thickness can be tested by producing butt or Tee-welds or when building up with a 2 - 6 mm diameter wire or 3 - 5 mm diameter electrode, 150 - 500 amps current and 4 - 52 m/hr welding speed. The deformation speed ranges between 1 to 225 mm/min; the number of deformation speeds is 155; maximum deformation force - 15 tons. A machine is shown for the determination of hot crack resistance of welded standard specimens of not less than 10 mm thick base metal. The distance between the movable grips of the specimen in the machine is 180 mm; vertical motion speed of the grips: 1 to 20 mm/min; there are 30 regulation steps; the maximum bending force attains 10 tons. A stand with posters describes a method of determining the cold crack resistance of welded specimens. Specimens without notches or with two symmetrical notches are loaded until breakdown by static tension after cooling down to 20-25°C. The basic factor of the method is the production of a constant, extended linear strained state in the specimen, permitting the study of the effect of various factors (chemical composition of the steel, electrode wire, flux, welding method, residual stresses, nature of heat treatment) on

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the appearance of cold cracks in the joints. A deficiency of the method is the limited range of temperature. The equipment for welding quality control includes the following machines: the ДСТ-1 (DST-1) ultrasonic flaw detector for the revealing of defects in longitudinal pipe butt seams, operating on the pulse system. The defect is represented on a screen. The technical characteristics are: ultrasonic oscillation frequency: 2.5 Mc frequency of emission of operational pulses: 600 cycles; 220 v a-c, 50 cycles feed source; power consumed: 450 watts; acoustic contact medium - water assortment of pipes to be tested: 76 - 152 mm diameter; 3-6 mm wall thickness. An experimental model of a machine for the automatic ultrasonic control of circular weld joints in metal pipes was designed by N.V. Troitskiy. The machine is equipped with a redesigned prismatic pickup with a focused ultrasonic beam; the linear circumferential motion speed of the pickup is 210 mm/min; the number of its oscillations per minute is 70; the diameter of pipes to be inspected is 200 - 1,000 mm; the thickness of the metal is 3 - 20 mm; the angle of incidence of the beam is 40°; the focal distance is 40 mm; operating frequency - 2.5 Mc. The УДМ-1 (UDM-1) pulse ultrasonic flaw detector is intended to reveal defects at 5 to 2,500 mm depth underneath the surface of large-size metal blanks, semiproducts and simple-shaped finished products. The technical characteristics of the machine are: defects of not less than 1 mm^2 reflecting surface

are revealed by using longitudinal and transverse oscillations; the magnitude of error is not over 1 - 1.5% when measuring the distance from the defects, the thickness of the part and the ultrasonic frequency; optical and sonic signals of defects when operating with straight or inclined pickups are employed; an electronic magnifying glass makes it possible to examine any layer of the work piece on a magnified scale; the distance from the defect, the material thickness and the distance using transverse oscillations are determined on one scale after simple resetting; operation with one or two heads is possible. A method of layer inspection of weld joints with the use of the described device is demonstrated (Figure 6). The МД-9 (MD-9) magnetographical flaw detector is intended for the inspections of butt welds of sheets and pipes of 5-12 mm thickness by two operations: 1) magnetizing of the "recordings" of dispersion fields over the defects on a ferromagnetic tape; 2) reproduction of magnetic dispersion fields recorded on the tape on an electron-beam valve screen. The МД-138 (MD-138) type electromagnetic flaw-detector is used for the inspection of butt welds on low carbon and low-alloy 5 - 30 mm thick steels. The control is made by the displacement of a magnetic head over the joint and the defect is revealed by a signal lamp. The device is portable and fed from a 220 v a-c circuit; efficiency is 0.2 m/min; operational radius - 15 m; weight 25 kg. The magnetic portable ДМП-2 (DMP-2) type flaw detector is

Quality Control of Welding and Welding Materials

intended to reveal surface and sub-surface defects in large-size steel work by sections, and for the inspection of weld joints by the method of magnetic suspensions. Annular magnetizing is performed with a smooth control of both the alternating current up to 1,500 amps and of the pulse current up to 400 amps. A hinged electromagnet makes possible the longitudinal magnetization by d-c. The feed source is a 220 v a-c circuit of 50 cycles; power required is not over 8 kvamp. The ГУП-УЧ-5-2 (GUP-UCh-5-2) device is used for the industrial inspection of weld joints in shops or on the site; the γ-radiation source is 192-iridium with an intensity of 5 g-equiv. of radium. The portable automatic ГУП-А-2М (GUP-A-2M) type Gamma device for the industrial inspection of circular seams in metal structures makes possible to reveal defects in difficulty accessible spots or to inspect several parts by one exposure. Co-60 radioactive isotope is used as γ-radiation source; its intensity is up to 1 g-equiv. of radium; hardness of radiation is 1.25 Mev. Thickness of the steel inspected is 110 - 120 mm. A lead container for radioactive Co-60 was redesigned by Engineer T.G. Cherevko; it is convenient in operation and assures safe work conditions. The РУП-400-5-1 (RUP-400-5-1) X-ray apparatus is used for the examination of metals including up to 120 - 130 mm thick steel.

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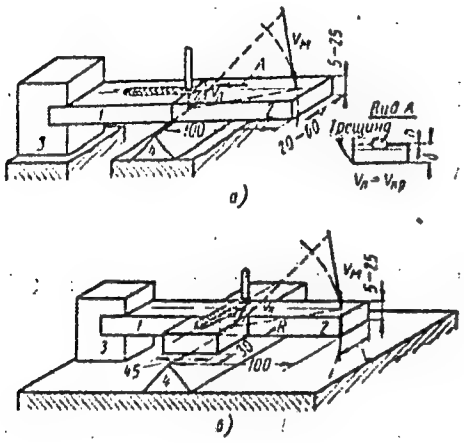
Figure 2



Schematic drawing of bending specimens when testing weld joints for resistance against transverse (a) and longitudinal (b) hot cracks 1 and 2; two halves of a composite specimen fastened by clamps on narrow edges; 3 - fixed clamp of the machine; 4 - prismatic support.

Quality Control of Welding and Welding Materials

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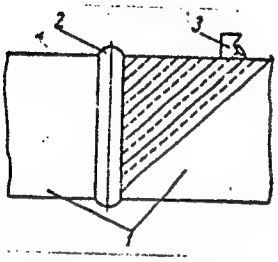
Figure 6: Schematic drawing of ultrasonic layer control of weld joints in thick part butts.



1 - base metal; 2- weld metal; 3 - pick up of flaw detector.

There are 8 figures.

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A006/A101

AUTHORS: Repeshko-Kravchenko, S. I., Engineer, Zhelavskiy, V. F., Kuznetsov, V. A.

TITLE: Welding of Electric Contacts of a Magnetic Starter

PERIODICAL: Svarochnoye proizvodstvo, 1961, No. 4, pp. 27 - 29

TEXT: Investigations were made to develop improved methods of joining the contacts to the adapters of magnetic starters and it was found that the best method for this purpose was the spot welding process. VNIIESO designed in 1957 together with the "Elektric" plant a spot welding machine МТПК -25 (MTPK-25) intended for the welding of contacts. This machine became operative at the Riga Plant of Electrical Machinebuilding and was used for the welding of three types of silver contacts. Savings in silver amounted to 1500 kg in 1960 and were achieved by a modified design of the contact, i.e., smaller dimensions of its stem. (Fig. 1) During welding only the stem is fused. Small silver contacts are welded to 0.25 mm thick БрОФ 6.5 - 0.15 (BrOF6.5-0.15) bronze bridges (2a) using the following procedure: Stage - II; compression 0.28 sec; welding 0.22 sec; forging -0.22 sec; pulse 0.04 - 0.06 sec; heating 5 - 14 graduation marks;

Welding of Electric Contacts of a Magnetic Starter

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pressure -80 - 100 kg. Silver contacts are welded to zinc-plated "2" and "10" grade incised steel bridges (Fig. 2b) as follows: stage VI-VIII; compression -0.28 sec; welding 0.1 - 0.28 sec; forging - 0.05 - 0.1 sec; pulse 0.04 - 0.06 sec; heating 10 - 14 graduation marks; pressure 80 - 100 kg. Silver contacts can be welded to steel contact bolts under analogous conditions. Welding of contacts on the MTPK-25 machine is highly efficient, namely 1250 - 1300 spots per h. A new design of a magnetic starter ПМР-2 (PMR-2) developed in 1959 at the REZ called for a technology of welding cermet contacts with bronze and steel. At the Institute of Metallurgy imeni A.A. Baykov AS USSR together with REZ investigations were made on the ultrasonic welding of СН -40 (SN-40) cermet contacts (40% nickel, 60% silver) and ОК-15 contacts (15% cadmium oxide, 85% silver) with bronze and silver on the УЗСМ-1 (UZSM-1) ultrasonic machine with УЗГ -10 (UZG-10) oscillator. Two systems investigated - 1) transmission of oscillations through the contact; 2) transmission of oscillations through the bridge (Fig. 4a,b) - the second method proved more satisfactory. Welding was performed at 12 - 14 micron amplitude; 100 kg contact force; 0.6 sec welding time. The small cermet contacts welded to bronze bridges showed high strength characteristics exceeding those prescribed by technical specifications. On the basis of results obtained the ultrasonic welding of these parts can be recommended for extended industrial use. A device was developed

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Welding of Electric Contacts of a Magnetic Starter

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for the welding of small contacts (Fig. 6) in whose race simultaneously 24 contacts can be placed. Ultrasonic welding was also successfully applied for welding large-size bridges with cermet contacts and cermet contacts with steel. The REZ is now organizing a department for the welding of small cermet contacts by ultrasonic process. There are 7 figures and 1 table.

ASSOCIATIONS: Rizhskiy elektromashinostroitel'nyy zavod (Riga Plant of Electric Machinebuilding) (Respeshko-Kravchenko and Zhelavskiy); Institut metallurgii imeni Baykova AN SSSR (Institute of Metallurgy imeni Baykov AS USSR) (Kuznetsov)

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Welding of Electric Contacts of a Magnetic Starter

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A006/A101

Figure 1:

Silver contacts: a - for riveting; (previous method) b - for spot welding.

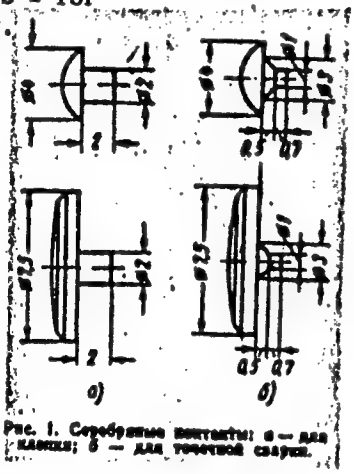

Рис. 1. Серебряные контакты: а — для клепки; б — для точечной сварки.

Figure 2:

Bridges for silver contacts in spot welding

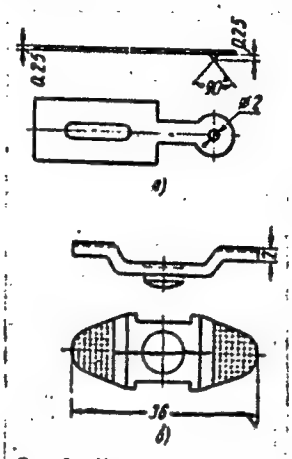

Рис. 2. Мостики под серебряные контакты при точечной сварке.

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A006/A101

Welding of Electric Contacts of a Magnetic Starter

Figure 3:

Bridges and contacts of PMR-2 magnetic starter

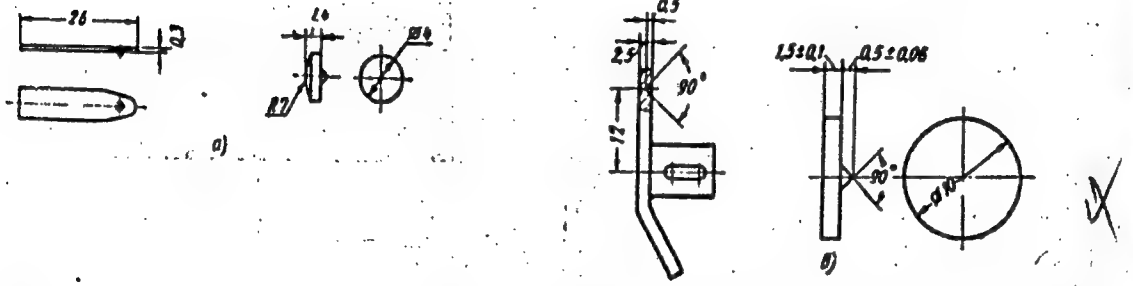

Рис. 3. Мостики и контакты магнитного пускателя ПМР-2.

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Welding of Electric Contacts of a Magnetic Starter

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Figure 4:

System of ultrasonic welding of contacts and bridges; a--oscillations are transmitted through the contact; b-oscillations are transmitted through the bridge; 1-bridge; 2-contact; 3-instrument; A-oscillation amplitude.

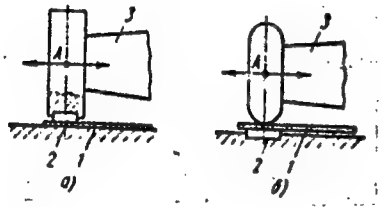

Figure 6:

Installation for ultrasonic welding of small cermet contacts

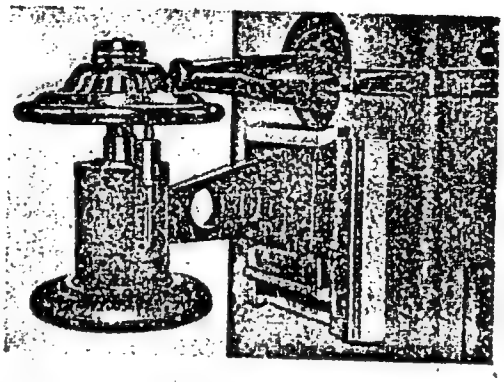

Рис. 6. Приспособление для ультразвуковой сварки малых металло-керамических контактов.

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SHCHAPOV, N.P., doktor tekhn.nauk, prof.; KRASOVSKIY, A.I., kand.tekhn. nauk; VOLOKHVYANSKAYA, E.S., kand.tekhn.nauk; KRAYCHIK, M.M., kand.tekhn.nauk; MAKSIMOV, V.N., inzh.; KOTEL'NIKOV, V.L., inzh.; KUZNETSOV, V.A., inzh.

Properties and the weldability of St. 3kp steel with a high arsenic content. Svar. proizv. no.2:1-7 F '62. (MIRA 15:2)
(Steel alloys--Welding)

SAVCHENKO, B.V., inzh.; Kuznetsov, V.A., inzh.

Ultrasonic welding of honeycomb constructions. Svar. proizv. no.12:19-20 D '62. (MIRA 15:12)

(Ultrasonic welding)

POPOVA, G.B.; YERSHOV, V.V.; KUZNETSOV, V.A.

Experimental study of melting and crystallization processes in pentlandite. Dokl. AN SSSR 156 no. 3:575-578 '64. (MIRA 17:5)

1. Predstavleno akademikom V.I.Smirnovym.

KUZNETSOV, V.

High speed drift mining with a PK-2m cutter-loader. Mast.ugl. 4 no.12:5-7 D '55. (MLRA 9:3)

1. Mashinist kombayna PK-2m shkhty no. 36 kombinata Moskvougol'.
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(Mine timbering)

KUZNETSOV, V.A., insh.

Tower headframes for multiple-rope hoisting. Prom. Stroi. 37 no.4:33-35 Ap '59. (MIRA 12:6)
(Mine hoisting--Equipment and supplies)

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1. Dnepropetrovskiy gornyy institut.
(Conveying machinery)

YEVLENT'YEV, P., inzh.; KUZNETSOV, V., inzh.

Improved mine supports. Mast.ugl. 9 no.3:10-11 Mr '60.
(MIRA 13:6)
(Mine timbering) (Hydraulic jacks)

KUZNETSOV, V.A., gornyy inzh.

Using the SVB-2 machine for boring holes by the rotary-percussion-method. Ugol' 35 no.10:54 O'60. (MIRA 13:10)
(Boring machinery)

KUZNETSOV, V.A., inzh.; VOLODARSKIY, Z.B.; BRO, S.M.

Industrial testing of a rotary excavator for the recovery of fire clay. Gor. zhur. no.4:47-49 Ap '61. (MIRA 14:4)

1. Dnepropetrovskiy proyektno-konstruktorskiy tekhnologicheskiy institut.

(Excavating machinery) (Fire clay)

TURNEYEV, P.; KUZNETSOV, V.

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(Lisichansk—Coal mines and mining—Production standards)

KUZNETSOV, V.; KUPTSOV, S.

Put norm research work in the service of production. Sots. trud 7 no.4:84-86 Ap '62. (MIRA 16:1)
(Lugansk Province--Coal mines and mining--Production standards)

Kuznetsov, V.A.

KUZNETSOV, V.A., dotsent, kandidat tekhnicheskikh nauk

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(Wheels) (Metal cutting)

[illegible], [illegible] A., KUZNETSOV, V. A.

Technology

Skorostnaia obrabotka metallov. Opyt NKMZ imeni Stalina (Highspeed processing of metals). Kiev, Mashgiz, 1951. 96 p.

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KUZNETSOV,V.A., kandidat tekhnicheskikh nauk, dotsent

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KUZNETSOV, V.

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1. Chlen oblastnogo soveta Nauchno-tekhnicheskogo obshchestva, Leningrad.
(Metal-cutting tools)

KUZNETSOV, Veniamin Alekseyevich; VASIL'YEV, B.V., red.

[Basic problems of the reliability of radioelectronic apparatus] Osnovnye voprosy nadezhnosti radioelektronnoi apparatury. Moskva, Energiia, 1965. 255 p.
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KUZNETSOV, V.A., inzhener

New developments in the automatic functioning of navigation beacons. Rech.transp.14 no.9:31-32 S'55. (MLRA 8:12)
(Beacons) (Automatic control)

KUZNETSOV, V.A.; CHMUTOV, K.V.

Integrating attachment for recording devices. Zav.lab.21 no.12: 1508-1509 '55. (MLRA 9:4)
(Electronic apparatus and appliances) (Recording instruments)

ANDIANOV, L.I.; YEVSHYEV, R.Ye.; POVOLOTSKIY, A.M.; KUZNETSOV, V.A.; OBERSHTEYN, A.A.

Arrangement of copper-aluminum crossovers in the bus bars of electrolytic cells. Prom.energ. 15 no.4:17 Ap '60. (MIRA 13:6)

(Electrometallurgy) (Bus conductors(Electricity))

KUZNETSOV, V.A.

New design for an iron ore enterprise. Prom. stroi. 39 no.10: 62-63 O '61. (MIRA 14:10)

1. Gosudarstvennyy institut po proyektirovaniyu gornykh predpriyatiy zhelezorudnoy i margantsevoy promyshlennosti i promyshlennosti nemetallicheskikh iskopayemykh.
(Metallurgical plants)

BEN', I.I.; POLLYAK, V.V., nauchnyy red.; KUZNETSOV, V.A., red.; SHMAKOVA, T.M., tekhn. red.

[Industry's requirements as to the quality of mineral raw materials] Trebovaniia promyshlennosti k kachestvu mineral'nogo syr'ia; spravochnik dlia geologov. Moskva, Gosgeoltekhizdat. Vol.29. [Glass] Stekol'noe syr'e. 1962. 70 p. (MIRA 16:7)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya.
(Glass manufacture)

LASKORIN, B.N.; KUZNETSOV, V.A.

Extraction of uranium from hydrochloric acid solutions. Ekstr.; teor.,prim.,app. no.2:209-218 '62. (MIRA 15:9)
(Uranium) (Hydrochloric acid)

KUZNETSOV, V.A., inzh.

Waste-heat boilers manufactured by the Belgorodsk factory for the chemical industries. Prom.energ. 17 no.5:27-29 My '62. (MIRA 15:5)

(Chemical plants--Equipment and supplies) (Boilers)

S/076/62/036/011/006/021
B101/B180

AUTHORS: Polukarov, Yu. M., and Kuznetsov, V. A. (Moscow)

TITLE: "Aging" of electrolytic copper deposits

PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 11, 1962, 2382 - 2387

TEXT: The structure and behavior of copper deposits 2 - 10μ thick were studied. Under the influence of additions of surface-active substances (thiourea, gelatin), complex formers (sodium pyrophosphate, sodium cyanide, ammonium hydroxide), and anions (SO_4^{2-}, ClO_4^-) to the electrolyte, and in dependence on deposition time, current density, and temperature. Results: (1) with thiourea, the physical properties of copper deposit obtained from sulfuric acid solution depend on deposition temperature and thiourea concentration. Deposits obtained at 25 - 40°C showed nearly constant resistivity; in those obtained at 15 - 20°C it fell about 35 - 40% in the first few hours after electrolysis. Deposits obtained at 15°C showed an internal stress of about 140 kg/cm^2, which decreased after the current was switched off. Those obtained at 40°C had higher stress but showed no subsequent decrease. X-ray analysis confirmed that the structure of deposits

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obtained at different temperatures was different. (2) The same behavior was observed with gelatin. (3) Deposits from sulfuric and perchloric acid solutions behaved similarly. Without surface-active substances their resistivity remained constant. The same holds for cyanide, pyrophosphate and ammoniacal solutions, but the resistivity of a copper deposit obtained from perchloric acid solution in the presence of diethanol amine decreased 47 - 50% within 24 hrs. Conclusions: Surface-active agents cause considerable lattice distortions and stacking faults. Aging after the current is switched off is due to ordering, which takes about 24 hrs. If the adsorption of surface-active substances can be reduced there will be less lattice distortion. There are 4 figures and 1 table.

ASSOCIATION: Akademiya nauk SSSR, Institut fizicheskoy khimii (Academy of Sciences USSR, Institute of Physical Chemistry)

SUBMITTED: May 23, 1961

MATSKEVICH, G., insh.; KUZNETSOV, V., insh.

Parts made of vinyl plastics by stamping. Na stroi. Ros. 4 no.4:19 Ap '63. (MIRA 16:4)

(Plastics—Molding)

KUZNETSOV, V. A. (Engineer) (Institute of metallurgy A. A. Baykov)

"Application of active control during ultrasonic welding of contacts".

Report presented at the 1st All-Union Conference on welding of heterogeneous metals, at the Inst of Electric Welding im. Ye. O. Paton, 14-15 June 1963. (Reported in Avtomaticheskaya svarka, Kiev, No. 9, Sept 1963, pp 95-96 author, V. R. Ryabov)
JPRS 24,651 19 May 64

KUZNETSOV, V.A., vrach

Bone fractures according to the data of the Noril'sk Hospital.
Vop. travm. i ortop. no.13:124-126 '63.
(MIRA 18:2)

1. Khirurgicheskoye otdeleniye gorodskoy bol'nitsy goroda Noril'ska.

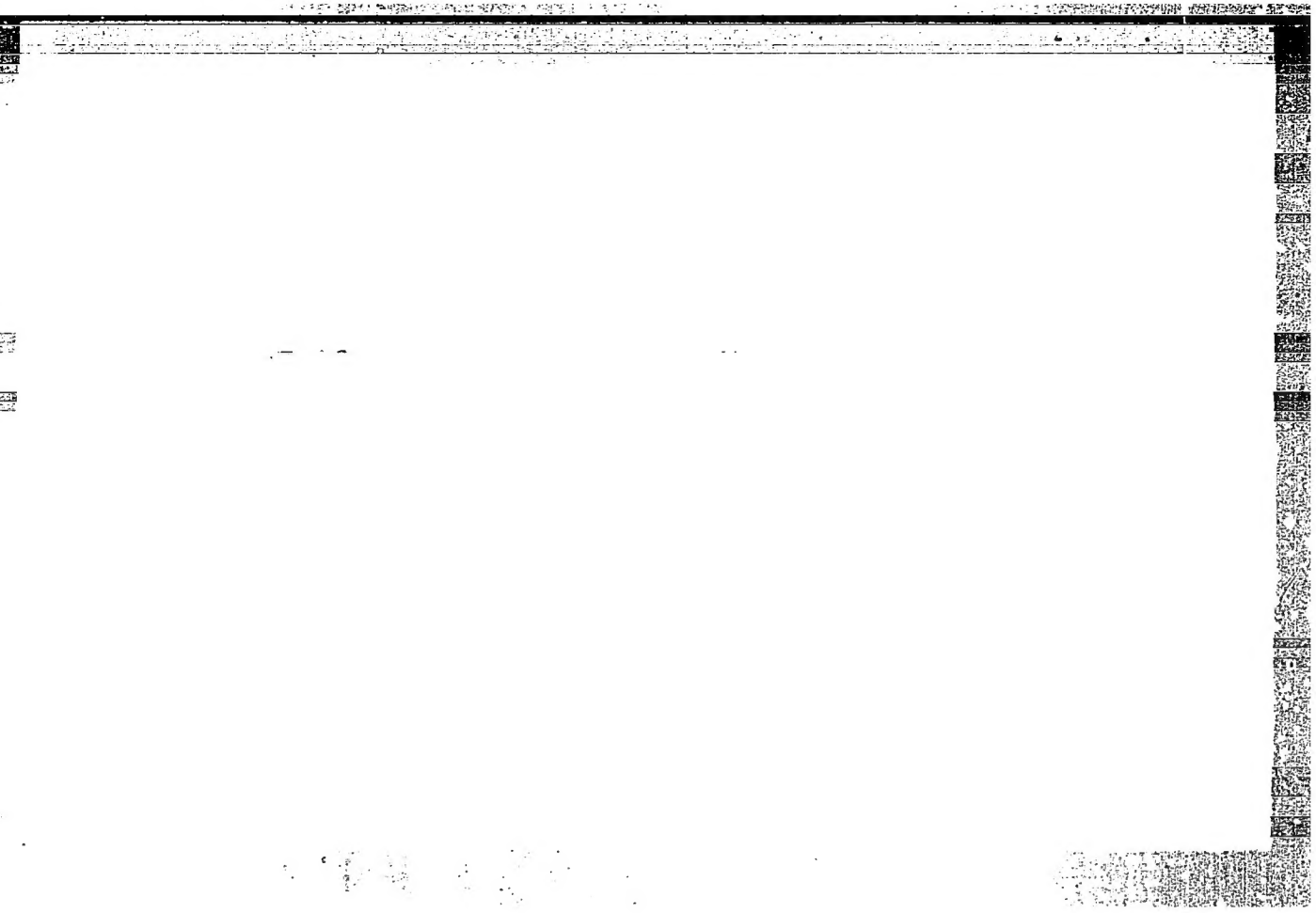
KUZNETSOV, V., prof.; TRET'YAKOV, V., kand. vet. nauk; SAFAR'YANTS, E.

Weight losses during the preslaughter holding of Karakul sheep after their feeding with cottonseed hulls. Mias. ind. SSSR 34 no.5:33-34 '63. (MIRA 16:11)

1. Turkmenskiy sel'skokhozyaystvennyy institut (for Tret'yakov). 2. Ashkhabadskiy myasokombinat (for Safar'yants).

termined experimentally: the rate of propagation of longitudinal ultrasonic waves in rods and in an infinite medium, and that of displaced waves in samples

The results show that the



APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000928130012-5"

KUZNETSOV, A.M.; KUZNETSOV, V.A.

Symmetrical shapes of bodies of natural abrasion. Izv. AN SSSR. Ser. geofiz. no.9:1462-1467 S '63. (MIRA 16:10)

1. Permskiy gosudarstvennyy universitet im. A.M.Gor'kogo.

ERZHBITSKAYA, L., inzh.; KUZNETSOV, V., kand.khimich. nauk

Protection against corrosion of metal structures in navigation locks. Rech. transp. 22 no.3:38-39 Mr '63. (MIRA 16:4)
(Locks (Hydraulic engineering)) (Corrosion and anticorrosives)

KUZNETSOV, V.A. [Kuzniatsou, V.A.]

Mechanical differentiation of alluvium in the Pripet basin. Vestsi AN BSSR. Ser. fiz.-tekh. nav. no.2:97-104 '64.

(MIRA 18:1)